

REMARKS

Claims 1 to 20 are pending in the application; claims 18 to 20 have been added with the instant amendment.

Claim Rejections - 35 U.S.C. 112

Claims 1-8, 17 stand rejected under 35 USC 112, 1st paragraph, as failing to comply with the written description requirement. The examiner is of the opinion that "continuing work piece machining and direct tool changing .." (claim 1) and "continuing work piece machining..., including tool changing..." (claim 17) is not supported by the specification.

In claim 1 the language in question has been eliminated.

In claim 17, "including" has been changed to "and" as suggested by the examiner in the objection to claim 17. The wording "continuing work piece machining... and tool changing ..." finds support in the specification in paragraphs 0017-0018: this text portion describes the general operation of an endless tool magazine and tool changer transferring tools from the tool magazine to the spindle heads as it is known in the art in connection with machining centers. This describes the regular tool change for performing different machining steps with different tools on a workpiece. Note that paragraph 0018 refers to very short "chip-to-chip" times (= cut- to-cut time: time between beginning of removal of a tool to be exchanged from a representative machining position and the completion of advancing the subsequent tool of the same length into the same machining position).

It is respectfully submitted that machine centers with tool magazines and tool changers for workpiece machining are characterized by automated machining of complex products by means of different tools exchanged during the production process for producing complex structures. Different machining steps are carried out by different tools, and the speed of exchange of tools (chip-to-chip time or cut-to-cut time) is a decisive factor of production efficiency. It is therefore respectfully submitted that the features of claim 17 are disclosed fully to a person skilled in the art.

Rejection under 35 U.S.C. 102

Claims 1, 3, 17 stand rejected under 35 U.S.C. 102(b) as being anticipated by JP-6-304835.

Claim 1 has been amended to include the features of a protective cover and machining being performed inside the protective cover. JP-6-304835 does not show a

protective cover in which the spindles are arranged. The spindles are exposed and freely accessible during machining.

Claim 17 has been amended to include the features of a protective cover and machining being performed inside the protective cover and tool changing being carried out through an opening in the protective cover. JP-6-304835 does not show a protective cover in which the spindles are arranged. The spindles are exposed and freely accessible during machining and tool change is not carried out through the protective cover.

Claims 1 and 17 are therefore not anticipated.

Rejection under 35 U.S.C. 103

Claims 1 to 17 stand rejected under 35 U.S.C. 103(a) as being unpatentable over JP-6-304835.

JP-6-304835 discloses a complex device for changing tools in a machine tool. The device comprises a tool stocker 66, a tool delivery device 68, a "tool magazine" 64, and a tool exchange style 62. The actual stocking area where a machine operator would stock the machine tool is the tool stocker 66. From here, the tool delivery device 68 transfers the tools T to the tool magazine 64. From the tool magazine 64 the tools T are transferred to the spindles 26, 28 by the style 62. The transfer path from stocking a tool at 66 to changing a tool into the spindle at 62 is long and it takes a long time to move a tool from the stocking area to the spindle; moreover several complex transfer mechanisms are involved for moving the tool from the stocker 66 to the spindle 26, 28. The spindles, i.e., the machining area, is not covered by a protective cover. Machining is not performed within a protective cover as required by instant claim 1; claim 9; and claim 17, respectively. Moreover, a tool change does not take place through the protective cover as required by instant claim 17.

Personnel stocking the stocker is far removed from the machine spindles and not at risk of injury caused e.g. by cuttings being produced by the tools mounted on the spindles. Therefore, there is no motivation to use a protective cover on the spindles.

In the case of the present invention, the magazines for the tools that are stocked by personnel are in immediate proximity of the spindles. Short transfer paths are provided in this way. The protective cover 18 enables the personnel to work near the spindles for stocking the magazines 2, 3 so that the magazines can be stocked during machining and the machining output can be increased because the spindle operation must not be

stopped.

Claims 2 and 10 (a machine operator stocks the tool magazine) is not obvious in view of *JP-6-304835*. The "magazine 64" is loaded with tools by the delivery system 68 that receives tools from the tool stocker 66. The stocker 66 remote from the "tool magazine 64" is stocked by a machine operator. Given the complex interacting mechanisms of the device according to *JP-6-304835* it is not obvious to eliminate half of the apparatus in order to stock the "tool magazine 64" by hand.

Claims 1, 9 and 17 and dependent claims are unobvious in view of *JP-6-304835*.

New Claims

New claims 18, 19, 20 correspond to proposed amended claims 1, 9, 17 presented by examiner in the last office action. Examiner has indicated allowability of these claims.

Three new independent claims are being presented. The required fee in the amount of \$600.00 is to be charged to credit card. PTO-2038 is attached.

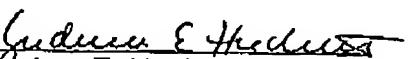
CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or e-mail from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on June 12, 2006,


Ms. Gudrun E. Huckett, Ph.D.
Patent Agent, Registration No. 35,747
Lönsstr. 53
42289 Wuppertal, GERMANY
Telephone: +49-202-257-0371
Facsimile: +49-202-257-0372
gudrun.draudt@t-online.de

GEH/Encl.: time extension petition (1 sheet); PTO-2038 (1 sheet)

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